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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ZHU, JERRY

ART UNIT	PAPER NUMBER
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2129

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/613,790	Applicant(s) LEE ET AL.	
	Examiner Jerry Zhu	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 rejected under 35 U.S.C. 102(b) as being anticipated by Marx et al, U.S. Number 6,173,266 (Marx). Specifically,

Claim 1, 6, 9

1. Marx teaches a method of facilitating completion of a task by a computer-based system (col.3, lin.28; the task is constructing an interactive speech application), the task being requested by a user or an application (col.1, lin.16-19, the task is initiated by a caller), the task being associated with a set of recipes each of which being associated with a set of acts and defining the manner of execution of acts for the completion of the task and a set of constraints (col.3, lin.29-39; a subset of dialogue modules are recipes and computer readable instructions are acts; the recipe connects dialogue modules in an order, or constraints, defining the call flow), each of the acts being associated with a set of parameters (col.3, lin.42-44) each of which being associated with a set of modalities (col.5, lin.49-67), the method comprising:
 - providing confidence measures for the recipes, the acts and the parameters associated with the task, identifying a suitable act to be executed using the provided confidence measures and executing the suitable act; (col.7, lin.41-44; the act is to generate a textual representation, col.9, lin.14-25);

- (claim 6) confidence measures are calculated using one or more from a group consisting of user preferences, application specific preferences and context specific issues.(col.7, lin.41-42; confidence is determined based on matches)
- (claim 9) storing the updated confidence measures for future use (col.12, lin.12-19; the confidence scores are set and used at col. 12, lin.29-42; therefore the confidence scores are stored)
- receiving a user response to the executed suitable act; (col.9, lin.25-29; col.11, lin.4-5)
- updating the confidence measures in accordance with the user response; (col.11, lin.39-43,)
- and repeating the identifying to updating steps until the task is completed.(col.11, lin.44-48)

Claims 2-5

2. The method taught by Marx in claim 1 wherein providing the confidence measures comprising:

- Calculating a confidence measure for each parameter (col.2, lin.26-29; Marx calculates confidence measure for one parameter in that scenario. Official notice is taken that confidence measure is associated with multi parameters depending on the situation. See U.S. Patent Publication 20030026340, paragraph 113)
 - (claim 3) estimating the accuracies and usage probabilities of the set of modalities (admitted prior art teaches that multiple modalities are used in

user interface for users to choose various modalities, paragraph 3) associated with the parameter and calculating the confidence measure for the parameter (col.7, lin.41-46; confidence in hypothesis relates to confidence measures in other parameters such as configuration parameter col.3, lin.48-56. Since users can choose various modalities according to admitted prior art, therefore it is inherent that the selection of recipes will imply the selection of modalities through confidence measure)

- Calculating a confidence measure for each act using the confidence measures for the set of parameters associated with the act (col.7, lin.41-44; the act is to generate a textual representation, col.9, lin.14-25) and
 - (claim 4) the probability of the act being executed successfully (official notice is taken that confidence measure is expressed as probability, U.S. Patent Publication # 20030046297, paragraph 5)
- Calculating a confidence measure for each recipe using the confidence measures for the set of acts associated recipe (col.7, lin.41-44; the act is to generate a textual representation, col.9, lin.14-25) and
 - (claim 5) the set of constraints associated with the recipe (it is inherent that the recipe specifies a set of constraints since a sequence of acts or computer instructions is constraints in selection of modalities and other resources)

Claim 7

3. The method taught by Marx in claim 1 wherein identifying the suitable act comprising:

- Selecting a suitable recipe associated with the task with highest confidence measure, (col.3, lin.34-39; Since each recipe is associated with a confidence measure as stated in claim 1, it is obvious to choose a suitable recipe based on confidence measure. Col.4, lin.20-32)
- Selecting a suitable act of highest confidence measure from a set of acts associated with the suitable recipe (col.3, lin.66-67; col.4, lin.1-7,16-19; the acts are dialog modules and computer-readable instructions. Since each act is associated with a confidence measure as stated in claim 1, it is obvious to choose suitable acts based on confidence measure as well as situational needs.)
- Selecting a parameter with highest confidence measure from a set of parameters associated with the suitable act (col.4, lin.7-15, Since each parameter is associated with a confidence measure as stated in claim 1, it is obvious to choose suitable parameter based on confidence measure as well as situational needs.)
- Selecting a suitable modality of highest confidence measure from a set of modalities associated with suitable parameter (Since users can choose various modalities according to admitted prior art paragraph 3 and each modality is associated with a confidence measure and a parameter, It is obvious to choose suitable modality based on confidence measure as well as situational needs)

- Repeating the sub-steps of selecting a suitable parameter to selecting a suitable modality until all the parameters within the set of parameters associated with the suitable act are selected. (Little patentable content is in this step since parameters relate to modalities as stated in claim 1, it is a design choice in selecting suitable parameter with related choice of modalities. There could be many design choices in selecting a suitable parameter with suitable modality.)

Claim 8

4. The method taught by Marx in claim 1 wherein updating the confidence measure comprising: Modifying the confidence measures for the set of parameters associated with the suitable act based on the observed user response; Modifying the confidence measure for the suitable act using the modified confidence measures for the set of parameters associated with suitable act; Modifying the confidence measures for the recipe associated with the suitable act using the modified confidence measure for the suitable act. (Claim 1 states that parameters, acts and recipes are associated with confidence measures. In response to a user's request, recipes are redefined see Marx's abstract and confidence measures are updated according to claim 1, inherently it follows that the confidence measures associated with recipes, acts and parameters are modified in response to user's request.)

Claims 10

5. (claim 10) The method taught by Marx in claim 1 further comprising:

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- evaluating the user response to the executed act (col.11, lin.20-23)
- modifying a formulation for the confidence measure calculation based on the evaluation, (the evaluation of user inputs will change the selection of act according to claim 1, the change of act will inherently reformulate the confidence measure calculation)

Claim 20

12. Claim 20 is anticipated by claim 1, 7 and 10 as taught by Marx.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Marx in view of Shams et al, U.S. Patent Publication number 20040059520 (Shams).

Claim 11

6. Marx teaches modifying the formulation of confidence measure but Marx fails to teach the formulation is performed using a machine learning system. Shams teaches using machine learning system to produce confidence measure (paragraph 30).

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One of ordinary skill in the art would have provided the machine learning system taught by Shams, for the purpose of calculating confidence measures taught by Marx. As a result it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to modify the system taught by Marx by adding the machine learning system taught by Shams.

Claim 12-19

13. Claims 12-15 are computer program claims that implement method claims 1-10 using instruction code and claims 16-19 are systems claims that implement method claims 1-11 using various software modules and various devices. Therefore claims 12-15 and claims 16-19 are rejected under the same rationale as cited in the rejection of rejected claims 1-11.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

System and Method for Multimodal Interactive Speech and Language Training, U.S. Patent Number 5,885,083.

Method and system for authoring of mixed-initiative multi-modal interactions and related browsing mechanisms, U.S. Patent Publication Number 2003/0225825.

System and Method for Multi-Modal Focus Detection, Referential Ambiguity Resolution and Mood Classification Using Multi-Modal Input. U.S. Patent Publication Number 2002/0135618

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Zhu whose telephone number is (571) 2724237. The examiner can normally be reached on 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jerry Zhu
Examiner
Art Unit - 2121
3/30/2005


Anthony Knight
Supervisory Patent Examiner
Tech Center 2100